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10/652,025	09/02/2003	Jerry C. Nims	011908.0102	1556

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EXAMINER	
KOZIOL, STEPHEN R	
ART UNIT	**PAPER NUMBER**
2609	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/652,025	NIMS, JERRY C.	
	Examiner	Art Unit	
	Stephen R. Koziol	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/18/04*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/18/2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07142004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: nonexistent details are described in the specification that have no correlation to the drawings. For example, paragraph 0057 of the specification describes an user command input interface 14 in figure 1 that does not exist in figure 1, and paragraph 0063 of the specification describes buttons 50, 50A, 52, and 54 in figure 3 that do not exist in figure 3. Appropriate correction on these and all other inconsistencies not specified herein, but rampant throughout the specification, is required.

As only one applicant is disclosed, Examiner recommends changing the plural "our...we" in the claim introduction statement on the first page of claims to the singular "my...I" to reflect that only one applicant is named.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in **Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966)**, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows: ***(See MPEP Ch. 2141)***

a. Determining the scope and contents of the prior art;
b. Ascertaining the differences between the prior art and the claims in issue;
c. Resolving the level of ordinary skill in the pertinent art; and
d. Evaluating evidence of secondary considerations for indicating obviousness or nonobviousness.

3. Claim 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Madden et al. US 6,249,285 B1 in view of Robinson US 6,438,260 B1.

Regarding claim 1, Madden teaches a method for converting a two-dimensional image to a three-dimensional image comprising:

i. inputting to a digital computer a 2D file representing a two dimensional image (while Madden does not expressly state the two-dimensional image file has to be input to a digital computer, Madden does disclose that the image processing performed on the 2D file representing a two dimensional image occurs within a "computer workstation" see fig 1. Therefor, inputting to a digital computer a 2D file representing a two-dimensional image is inherent in and necessitated by

Madden's disclosed "computer workstation" in fig 1 and further described in col. 5 ln. 1-26);

ii. displaying a two-dimensional image corresponding to said 2D file (see fig 4A, also, col. 5 ln. 15-26 where the "video monitor" (item 30 of fig. 1) is operable to display the 2D image in fig. 4A corresponding to said 2D file);

iii. generating a depth map corresponding to said two-dimensional image(see fig 4A, col. 5, ln. 38-47 and col. 8, ln. 32-38);

iv. receiving a user-entered depth command assigning a first depth value to a portion of said depth map corresponding to a first area (see fig 2, col. 5, ln. 63-67 and col. 6, ln. 1-7);

v. assigning a second depth value to a portion of said depth map not corresponding to said first area (see fig. 2, and col. 6, ln. 23-41);

vi. generating a parallax image of said two-dimensional image shifting said first area with respect to an area of said two-dimensional image within said first area, said shifting based on said first depth value and said second depth value (see col. 9 ln. 44-60, where parallax image processing is disclosed in the process of user-defined depth map adjusting where "the estimated scene structure is recalculated with new information (second depth value) provided by the user overriding information derived from the automated scene process (first depth value));

Madden fails to disclose displaying an anaglyph image based on said two-dimensional image and said parallax image, however, Robinson does disclose that a method for

converting a two-dimensional image to a three-dimensional image for display through a micro optical medium further comprises:

vii. displaying an anaglyph image based on said two-dimensional image and said parallax image (see Robinson fig 2 and col. 3 ln. 36-43, where anaglyph image display is disclosed. Therefore the combined teachings of Madden and Robinson would have rendered obvious utility of displaying an anaglyph image based on said two-dimensional image and said parallax image during the process of converting a two-dimensional image to a three-dimensional image for display through a micro optical medium;

Madden and Robinson fail to disclose, that a method for converting a two-dimensional image to a three-dimensional image for display through a micro optical medium further comprises:

viii. receiving a user-entered rendering command and, in response, generating a rasterized, interlaced image file including alternating strips of said two-dimensional image and said parallax image for printing on a micro optical media. However, Examiner takes Official Notice to state that both the concept and advantage of generating a rasterized, interlaced image file to be printed on a micro optical media, said image file including alternating strips of an already formed two-dimensional image and a parallax image is notoriously well known and expected in the art, and therefore would have been obvious to incorporate into the combined disclosure of Madden and Robinson for the benefit of

converting a two-dimensional image to a three-dimensional image for display through a micro optical medium;

ix. printing said interlaced image file on said micro optical medium. However, Examiner takes Official Notice to state that both the concept and advantage of printing an interlaced image file on a micro optical medium is notoriously well known and expected in the art, and therefore would have been obvious to incorporate into the combined disclosure of Madden and Robinson for the benefit of converting a two-dimensional image to a three-dimensional image for display through a micro optical medium.

Regarding claim 2, Madden teaches a method further comprising: receiving a user-entered outlining command identifying said first area of said two-dimensional image (see fig 2, col. 5, ln. 63-67 and col. 6, ln. 1-7).

Regarding claim 3, Madden teaches a method wherein said receiving a user-entered outlining command includes receiving, via a graphical user interface, a trace command identifying an outer peripheral line of said first area. (See fig 2, col. 5, ln. 63-67 and col. 6, ln. 1-7.)

Regarding claim 4, Madden teaches a method wherein said generating a parallax image of said two-dimensional image includes pre-shifting said first area in a direction opposite a direction of said shifting, such that when said image is viewed through said micro-

optical medium it appears at a lateral position substantially co-located with its original position within said image. (See col. 9 ln. 44-60 and col. 8, ln. 32-38, where the act of generating a parallax image via Madden's disclosed planar parallax method which derives regions (i.e. planes) relative to positional information to said planes further operative to perform depth shifting on said planes as per the planar parallax method and inherently necessitates pre-shifting said first area in a direction opposite a direction of said shifting such that it appears at a lateral position substantially co-located with its original position within said image.)

Regarding claim 5, Madden teaches a method for converting a two-dimensional image to a three-dimensional image comprising:

i. inputting to a digital computer a 2D file representing a two dimensional image (while Madden does not expressly state the two-dimensional image file has to be input to a digital computer, Madden does disclose that the image processing performed on the 2D file representing a two dimensional image occurs within a "computer workstation" see fig 1. Therefor, inputting to a digital computer a 2D file representing a two-dimensional image is inherent in and necessitated by Madden's disclosed "computer workstation" in fig 1, also further described in col. 5 ln. 1-26);

ii. displaying a two-dimensional image corresponding to said 2D file (see fig 4A, also, col. 5 ln. 15-26 where the "video monitor" (item 30 of fig. 1) is operable to display the 2D image in fig. 4A corresponding to said 2D file);

iii. generating a multi-layer information file (depth file) having information defining a multi-layer image, said defining including establishing a number of layers and a parallax information establishing a distance between at least a first and a second of said layers (see fig 4A (multi-layer information file and multi-layer image), col. 5, ln. 38-47 and col. 8, ln. 32-38, also col. 9 ln. 44-60 where Madden's disclosed planar parallax method derives regions (i.e. planes) relative to positional information to said planes further operative to perform depth shifting on said planes and inherently necessitates establishing a distance between at least a first and a second of said layers (planes) for a multi-layer image view as per the planar parallax method);

iv. receiving external commands associating a first area of said two-dimensional image to said first layer of a multi-layer image and associating a second area of said two-dimensional image to said second layer of said multi-layer image (see fig 2, col. 5, ln. 63-67 and col. 6, ln. 1-7 and col. 6, ln. 23-41);

v. generating a first projection of said image of said multi-layered image representing a left eye view and a second projection of said multi-layer image representing a right eye view, said projection based on (see col. 9 ln. 44-60 where the act of generating a parallax image via Madden's disclosed planar parallax method derives regions (i.e. planes) relative to positional information to

said planes further operative to perform depth shifting on said planes and inherently necessitates generating right and left eye images for a multi-layer image view as per the planar parallax method.);

vi. receiving external layer movement commands changing said distance between said first layer and said second layer (see fig 2, col. 5, ln. 63-67 and col. 6, ln. 1-7 and col. 8, ln. 32-38);

Madden fails to disclose displaying an anaglyph image based on said first projection and second projection, however, Robinson does disclose that a method for converting a two-dimensional image to a three-dimensional image for display through a micro optical medium further comprises:

vii. displaying an anaglyph image based on said first projection and second projection (see Robinson fig 2 and col. 3 ln. 36-43, where anaglyph image display is disclosed. Therefore the combined teachings of Madden and Robinson would have rendered obvious utility of displaying an anaglyph image based on said two-dimensional image and said parallax image during the process of converting a two-dimensional image to a three-dimensional image for display through a micro optical medium);

Madden fails to disclose displaying an updated anaglyph image based on said received layer movement commands, however, Robinson does disclose that a method for converting a two-dimensional image to a three-dimensional image for display through a micro optical medium further comprises:

viii. displaying an updated anaglyph image based on said received layer movement commands (see Robinson fig 2 and col. 3 ln. 24-43, where anaglyph image display is disclosed within the layer movement processing of 3D image data (left and right eye parallax shifting) to be displayed. Therefore the combined teachings of Madden and Robinson would have rendered obvious utility of displaying an anaglyph image based on said two-dimensional image and said parallax image during the process of converting a two-dimensional image to a three-dimensional image for display through a micro optical medium);

Madden fails to disclose generating at least a first frame and a second frame, said first frame representing a projection of said multiplayer image onto a first left eye image plane and said second frame representing a projection of said multiplayer image onto a first right eye image plane, however, Robinson does disclose that a method for converting a two-dimensional image to a three-dimensional image for display through a micro optical medium further comprises:

ix. generating at least a first frame and a second frame, said first frame representing a projection of said multiplayer image onto a first left eye image plane and said second frame representing a projection of said multiplayer image onto a first right eye image plane (see Robinson fig 2 and col. 3 ln. 36-43, where anaglyph image display is disclosed. A projection of said multiplayer image onto a first left eye image plane and said second frame representing a projection of said multiplayer image onto a first right eye image plane is inherent in and necessitated by Robinson's disclosed anaglyph image formation);

Madden and Robinson fail to disclose, that a method for converting a two-dimensional image to a three-dimensional image for display through a micro optical medium further comprises:

x. generating an interlaced file including alternating strips of said first frame and said second frame However, Examiner takes Official Notice to state that both the concept and advantage of generating a rasterized, interlaced image file to be, said image file including alternating strips of an already formed two-dimensional image and a parallax image is notoriously well known and expected in the art, and therefore would have been obvious to incorporate into the combined disclosure of Madden and Robinson for the benefit of converting a two-dimensional image to a three-dimensional image for display through a micro optical medium; and

xi. printing said interlaced image file on said micro optical medium. However, Examiner takes Official Notice to state that both the concept and advantage of printing an interlaced image file on a micro optical medium is notoriously well known and expected in the art, and therefore would have been obvious to incorporate into the combined disclosure of Madden and Robinson for the benefit of converting a two-dimensional image to a three-dimensional image for display through a micro optical medium.

Examiner's Note

4. The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Contact

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Koziol whose telephone number is (571) 270-1884. The examiner can normally be reached on M - alt. F 8:00-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571) 272-7332. Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-7332.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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